

In the Specification:

Paragraph 83, line 15;

Broadly, the present invention of a self leveling camera support apparatus 22 for helping isolate a camera 24 from a rolling axis motion 31 of a support structure 28 includes a frame 50 having a longitudinal axis 49, the frame includes a first end 26 that is adapted to attach to a support structure 28 and a frame second end that includes a frame second end pivotal connection on the non dampener 64 side 51 and a frame second end pivotal connection on the dampener 64 side 53 that together form the pivotal connections 51 and 53 having a pivotal roll axis 30. The materials of construction for the frame 50 are preferably aluminum, alternatively stainless steel, plastics, or composites could be used that are suitable for a marine application. Also included is a roll member 52 that is adapted to attach to the camera 24, using a standard one quarter (1/4) inch screw 42 fastener on a camera 24 mount pad 40, however, other mounting configurations could be used depending upon the specific camera 24 that would be adequate to secure the camera 24 to the roll member 52. The roll member 52 is pivotally attached to the pivotal connections 51 and 53 by a pivotal shaft 54, with the roll member 52 being operational to pivot ~~parallel to~~ about the pivotal roll

Application No. 10/708,438

axis 30. Preferably, the interface between the pivotal connections 51 and 53 and the pivotal shaft 54 is accomplished by use of sleeve bearings 38 manufactured by IGUS, part number TFI-0809-08. Alternatively, the bearings 38 could be any type of sliding contact between the pivotal connections 51 and 53 and the pivotal shaft 54 that would accomplish the aforementioned pivotal movement and be suitable for a marine environment. The roll member 52 also includes an extension arm 46 having a longitudinal axis 47, the extension arm 46 including a proximal end portion 45 that is adjacent to the roll member 52. The extension arm 46 longitudinal axis 47 being positioned approximately perpendicular to the pivotal roll axis 30, with the extension arm 46 also including a distal end portion 43 that is adjacent to a counter balance weight 44 that is also included with the extension arm 46. The roll member 52 is operational to help maintain the camera 24 positional orientation level, for example to the horizon 32 in relation to arbitrary pivotal roll movement 31 of the frame 50, wherein the frame 50 is adapted to be attached to the support structure 28, with the support structure 28 and the frame 50 moving in a substantially like manner from the arbitrary pivotal roll movement 31. Thus, the roll member 52 is operational to help maintain the camera 24 positional orientation level, for example to the horizon 32 in relation to arbitrary pivotal roll movement 31 of the frame 50 resulting from a selectively positioned center of mass 90 of the roll member 52, camera 24, extension arm 46, and counterbalance weight 44 combined, with the center of mass 90 being positioned between the pivotal roll axis 30 and the frame

Application No. 10/708,438

50 first end 26, wherein the frame longitudinal axis 49 and the extension arm 46 longitudinal axis 47 form a parallel to angular relationship depending upon the arbitrary pivotal roll movement 31 of the frame 50, wherein the frame 50 is adapted to be attached to the support structure 28. The typical camera 24 weight that is anticipated for the self leveling camera support apparatus 22 is about 0.5 pounds to 3.0 pounds, with the possibility that the camera weight 24 being more or less than this range for a particular application.

Paragraph 90, line 11;

Referring in particular to Figure 8, and Figures 1-7 for the structure referred to in the self leveling camera 24 support apparatus 22 assembly, disclosed is a method of acquiring camera 24 images of an aquatic event, comprising the steps of firstly providing a self leveling camera support apparatus 22 that includes a frame 50 having a longitudinal axis 49, with the frame 50 including a first end 26 that is adapted to attach to a support structure 28 and a second end that includes a frame second end pivotal connection on the non dampener 64 side 51 and a frame second end pivotal connection on the dampener 64 side 53 that together form a pivotal connection 51 and 53 having a pivotal roll axis 30. Also provided is a roll member 52 adapted to attach to a camera 24, with the roll member 52 being pivotally attached to the pivotal connection 51 and 53, with the roll member 52 being operational to pivot parallel to about the pivotal roll axis 30. The roll member 52 also includes an extension

Application No. 10/708,438

arm 46 having a longitudinal axis 47, with the extension arm 46 including a proximal end portion 45 that is adjacent to the roll member 52. The extension arm 46 longitudinal axis 47 being positioned approximately perpendicular to the pivotal roll axis 30, with the extension arm 46 also including a distal end portion 43 that is adjacent to a counterbalance weight 44, wherein the counterbalance weight 44 is movably engagable along the distal end portion 43. The roll member 52 is operational to help maintain the camera 24 positional orientation level in relation to arbitrary pivotal roll movement 31 of the frame 50, resulting from a selectively positioned center of mass 90 of the roll member 52, camera 24, extension arm 46, and counterbalance weight 44 combined. The center of mass 90 being positioned between the pivotal roll axis 30 and the frame first end 26, wherein the frame 50 longitudinal axis 49 and the extension arm 46 longitudinal axis 47 form a parallel to angular relationship 61. The extension arm 46 proximal end portion 45 that is adjacent to the roll member 52 further comprises a fixably adjustable element 48 that allows the extension arm 46 including the extension arm 46 longitudinal axis 47 to deviate from being approximately perpendicular to the pivotal roll axis 30. The fixably adjustable element 48 is operational to accommodate a camera 24 with an offset center of gravity as previously described. Further included is an adjustable dampener 64 that is positioned adjacent to both the frame 50 and the roll member 52, the dampener 64 is operational to help control the relative arbitrary pivotal roll movement 31 of the frame 50 to the roll member 52, wherein the frame 50

Application No. 10/708,438

longitudinal axis 49 and the extension arm 46 longitudinal axis 47 form a parallel to angular relationship.